

Level 2 Award

Thinking and Reasoning Skills

OCR Level 2 Award

Unit 1 **B901**: Thinking and Reasoning Skills

Mark Scheme for June 2012

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotations

Annotation	Meaning
	Correct point
	Incorrect point
	Benefit of the doubt
	No benefit of doubt given
	Information omitted
	Unclear
	Level one
	Level two
	Level three
	Level four
	Not answered question
	Development
	Irrelevant, a significant amount of material that does not answer the question

Subject-specific Marking Instructions

- 1.1 Marking must be positive. Marks must not be deducted for inaccurate or irrelevant answers. Half-marks must not be used.
- 1.2 The full range of marks should be used. Do not be afraid to award full marks or no marks. Failure to do this will seriously affect the distribution of marks.

- 1.3 Be consistent from script to script and from batch to batch.
- 1.4 It is not possible to cover every possible type of response within a levels of response mark scheme and examiners are expected to use their professional judgement at all times in ensuring that responses are placed in the correct levels and given an appropriate mark within that level.
- 1.5 If a candidate reaches a particular level s/he must be rewarded with a mark within that level. It is not necessary to work through the levels.
- 1.6 Where a band of marks is indicated for a level these marks should be used with reference to the development of the answer within that level. Decide the appropriate level first and then mark within that level.
- 1.7 The mark scheme primarily aims to reward the demonstration of the skills. **Where examples are given these are not prescriptive but intended as a guide.** If in doubt refer to your team leader.

Crossed out and duplicated answers

Crossed out answers

- where a candidate crosses out an answer and provides an alternative response the crossed out response is not marked and gains no marks
- where a candidate crosses out an answer to a whole question, but makes no second attempt and the inclusion of the answer would not cause a rubric infringement, the assessor should attempt to mark the crossed out response and award marks appropriately.

Duplicated answers

- normally all responses are marked and the highest mark given
- where alternate answers are provided to a multiple choice question, no mark should be awarded (for example: following a request to tick one box, the candidate ticks two or more boxes)
- where the candidate provides contradictory responses, no mark should be awarded (for example: the candidate writes a statement such as 'water freezes at 0C and this means it is a liquid at -10C). The candidate, here, does not seem to understand the context of the 'question.
- where the candidate has adopted a 'scattergun' approach by providing multiple answers to a single response question, no mark should be awarded.

Question		Answer	Marks	Guidance
1	(a)	Y	1	Please refer to the generic guidance on crossed out and duplicated answers.
	(b)	X	1	Please refer to the generic guidance on crossed out and duplicated answers.
	(c)	W	1	Please refer to the generic guidance on crossed out and duplicated answers.
	(d)	Z	1	Please refer to the generic guidance on crossed out and duplicated answers.
2	(a)	“As”, “because”, “should” are acceptable to a maximum of 2 marks.	2	“And” not accepted
	(b)	1 mark for placing brackets around the phrase “(as) you will get a high mark in the exam”	1	If any additional information is included in the brackets, no mark is to be awarded.
	(c)	1 mark for underlining the phrase “Your parents should be pleased with you”	1	If any additional information is underlined, no mark is to be awarded.
3	(a)	1 mark for either “tu quoque”, “two wrongs don’t make a right” or “reasoning from wrong actions”	1	No mark for an explanation in place of a name
	(b)	<p>1 mark for explaining that it is not an excuse for wrong doing to point out that those who accuse you are guilty of the same crime.</p> <ul style="list-style-type: none"> • Just because the teacher drops litter, it is not right for the student to do the same thing. • The student is reasoning that two wrongs make a right, which is not the case. • The teacher drops litter and so it is OK for the student to do so. 	1	<p>Credit any answer which expresses the idea that just because someone else does wrong that doesn’t make it right</p> <p>Credit any answer which suggests that the behaviour of the arguer is irrelevant to the value of the argument.</p> <p>Credit responses which paraphrase the structure of the student’s argument, which convey the idea that the student believes that two wrongs make a right.</p> <p>Credit candidates who write “two wrongs don’t make a right” in part (b) if they have written “tu quoque” or “reasoning from wrong actions” in part (a).</p>

Question	Answer	Marks	Guidance
4 (a) (b) (c) (d)	Credit 1 mark for any one of the following points up to 4 marks in total: <ul style="list-style-type: none"> • The survey is restricted to three schools • The survey is restricted to London schools • The survey is restricted to secondary schools • The survey is restricted to teenagers • The survey is restricted to girls • The girls may not have been bullied at school • The girls may not have been bullied recently • There is no evidence to show that the number who have experienced bullying is an increase on previous years 	4	Candidates are to be credited for any valid points relating to the mismatch between the sweeping conclusion and the very limited sample or the irrelevance of the data to the conclusion. Non creditworthy answers will fail to highlight gap between conclusion and the sample e.g. “doesn’t say what is meant by bullying” 0 marks Each credited answer must be distinct.
5 (a)	1 mark for correctly identifying that the condition is sufficient	1	
	1 mark for explaining that having £10,000,000 is enough to count as being rich or that a person with £10,000,000 is rich. 1 mark for explaining that having £10,000,000 is not needed because you can still be rich with a different amount of money than this.	2	One mark is available for explaining why having £10,000,000 is a sufficient condition for being rich. The second mark is for explaining that it is not a necessary condition of being rich. However, the words “necessary” and “sufficient” do not need to be used to achieve these marks.

Question	Answer	Marks	Guidance
6 (a)	<p>Credit 1 mark for an undeveloped point which nevertheless clearly marks a difference between murdering someone and not giving money to famine victims.</p> <p>Examples of possible points for 1 mark:</p> <ul style="list-style-type: none"> • Murder is deliberate/intentional killing • With murder the death of the victim is direct/certain • Not giving money to charity does not directly kill anyone • With murder someone does die • Murder is criminal/against the law • Murder is killing but not giving money to charity does not kill anyone. <p>Credit 2 marks for when the key point is fully explained in terms of an explicit statement of difference.</p> <p>Examples of possible explicit statements of difference for 2 marks:</p> <ul style="list-style-type: none"> • Murder is deliberate/intentional killing, whereas not giving money to famine victims doesn't mean you want or mean to kill them • With murder the death of the victim is direct or certain, whereas not giving money to famine victims is less direct/certain to lead to death • With murder I kill a specific person, whereas not giving money to famine relief may result in death of unknown/unidentified people • With murder someone does die, whereas with me not giving money no one may die because other people could give the money • Murder is criminal/against the law, whereas not giving money to famine relief is selfish but not criminal 	2	<p>A 2 mark answer will include a direct reference to both murder and not giving money to charity. It should also fully explain a key difference between the things that are being compared.</p>

Question		Answer	Marks	Guidance
6	(b)	As above	2	Marks for 6b are only allocated to candidates whose second point is clearly different and distinct from the point offered in answer to 6a
7	(a)	1 mark for USA	1	
7	(b)	1 mark for Australia	1	
7	(c)	1 mark for Germany	1	
7	(d)	1 mark for identifying that both countries are doing less well in the competition as more time passes	1	
7	(e)	1 mark for 5 medals	1	
8	(a)	1 mark for Physics	1	
8	(b)	1 mark for Thinking and Reasoning Skills	1	
8	(c)	1 mark for English Literature	1	
8	(d)	1 mark for History	1	

Question	Answer	Marks	Guidance
9	<p>1 mark for recognising that correlation does not establish causation or that the connection is not evidence of a causal link.</p> <p>1 mark for explaining that it could be a coincidence/could be something else causing both of them/could be that the causal link goes in the other direction</p> <p>Expected answers for 2 marks:</p> <ul style="list-style-type: none"> • Just because they are both increasing doesn't prove badgers are the cause. It could be a coincidence (2 marks) • Just because they are both increasing doesn't prove badgers are the cause. It could be something else causing them both (2 marks) • Just because they are both increasing doesn't prove badgers are the cause. It could be foxes/deer/rats/cats causing the disease in both (2 marks) • The fact there is a link does not prove badgers are the cause. It could be cows cause the disease in badgers (2 marks) • He is assuming that the badgers are giving the disease to the cows, but it could be the other way around. (2 marks) 	2	

Question	Answer	Marks	Guidance
10	<p>1 mark for a separate alternative explanation</p> <ul style="list-style-type: none"> • Spreads from cattle to cattle (1 mark) • Spreads to cattle from foxes / cats etc (1 mark) • Spreads from humans to cattle (1 mark) <p>2nd mark for reason or evidence offered in support of alternative explanation</p> <p>Expected answers for 2 marks:</p> <ul style="list-style-type: none"> • Spreads from cattle to cattle because it is worst in areas of high density of cattle (2 marks) • Spreads from cattle to cattle because cattle don't show symptoms for many years so they could be infecting one another without the farmer knowing (2 marks) • Spreads to cattle from foxes/cats etc because Document A which is a reputable source says this can happen (2 marks) 	2	
11	<p>1 mark for an undeveloped explanation</p> <ul style="list-style-type: none"> • This shows that badgers do spread the disease. (1 mark) • This shows that killing some badgers is not enough. (1 mark) <p>2 marks for a developed explanation</p> <ul style="list-style-type: none"> • This shows that killing some badgers is not enough because the disease would spread elsewhere, so it is important that all badgers should be killed. (2 marks) 	2	

Question	Answer	Marks	Guidance
12	<p>1 mark for each alternative course of action identified up to 2 marks</p> <p>Possible courses of action include:</p> <ul style="list-style-type: none"> • Vaccinate the cattle (1 mark) • Kill only badgers with the disease (1 mark) • Build more secure farm buildings so badgers cannot access cattle and/or their feed (1 mark) • Put up better fences so badgers cannot access fields cattle graze in (1 mark) 	2	Credit any practical alternative
13	<p>1 mark for each relevant criterion identified up to a maximum of two marks for two separate criteria</p> <p>Possible criteria include:</p> <ul style="list-style-type: none"> • Cost • Animal welfare/rights • Wildlife conservation/preservation • Health risks to public • Practicality • Effectiveness • Public opinion 	2	Credit any relevant criterion

Question		Answer	Marks	Guidance
14		<p>1 mark for each problem identified up to a maximum of two marks for two separate problems</p> <p>Possible problems could include:</p> <ul style="list-style-type: none"> • May be difficult to catch them in order to vaccinate them • The vaccine could be very expensive • The vaccine might not be very effective • The vaccine might have adverse side effects • It could take too long • The vaccine may not exist yet • The animals vaccinated may already have TB. 	2	

Question		Answer	Marks	Guidance	
				Content	Levels of response
15		<p>Indicative content for 9 marks</p> <p>Killing all badgers now is not the right solution to this problem. We need more evidence before we can even be sure badgers are to blame. It is possible badgers are contracting the disease through contact with cattle and not vice versa. However a combination of less extreme measures could do much to reduce the spread of the disease. Firstly, cattle could be tested for the disease more regularly than every four years because as Document A establishes cattle can have the disease and thus infect one another even before the symptoms show.</p>	9	<p>Anticipated points include the following</p> <ul style="list-style-type: none"> • There are other alternative courses of action open to us eg vaccinating the cattle; developing ways of keeping badgers out of farm buildings/places where cows graze; killing only the sick badgers • Some of these alternatives may better fit with our key criteria eg issues of animal welfare; wildlife conservation; public opinion; effectiveness; costs 	<p>Arguments in the wrong direction can be awarded a maximum of 4 marks (bottom of Level 2).</p> <p>Performance descriptions for 7 to 9 marks:</p> <ul style="list-style-type: none"> • The conclusion is precisely and clearly stated. • Reasons are persuasive, cogent and fully developed • The structure of the reasoning is clear and explicit and places minimal reliance on assumptions. • Any ideas borrowed from the documents are developed and expanded

Question			Answer	Marks	Guidance	
					Content	Levels of response
15			<p>Secondly, better fencing is a simple and fairly cheap way of securing herds from infection from other animals such as badgers and foxes and deer. Thirdly, cattle could be vaccinated against the disease and this is surely a more acceptable solution to the general public than the destruction of a much loved wild animal. Therefore the best solution is a combination of sensible, acceptable and practical solutions which does not by any means require the killing of all badgers now.</p> <p>Indicative content for 6 marks</p> <p>We don't have to kill all badgers now. We need to keep the countryside as it is and should conserve animal species. It is cruel to kill all badgers. It is also not necessary as the scientist says. We could build fences to protect the cattle from badgers and other wild animals. We could vaccinate the cattle. We could do more research and develop a drug to cure the disease. Any of these is more humane than trying to kill all badgers now.</p>		<ul style="list-style-type: none"> It is possible badgers are not the primary cause of the spread of the disease eg could be other mammals or could be the cows themselves 	<ul style="list-style-type: none"> Evidence derived from the documents is used critically and strengthens the argument Grammar, spelling and punctuation are good. <p>Performance description for 4 to 6 marks:</p> <ul style="list-style-type: none"> The conclusion is clearly stated. Reasons which are plausible and relevant are offered. The structure of the reasoning is not fully explicit and does rely on some assumptions. Any ideas borrowed from the documents are re-expressed in the student's own words and used appropriately but not necessarily further developed Evidence derived from the documents is used to strengthen the argument Grammar, spelling and punctuation are adequate.

Question			Answer	Marks	Guidance	
					Content	Levels of response
15			<p>Indicative content for 3 marks</p> <p>It is cruel. Badgers are harmless animals and should not be harmed. The scientist doesn't say they do spread the disease it is just possible that is all. We need more evidence first.</p>			<p>Performance description for 1 to 3 marks</p> <ul style="list-style-type: none"> • The conclusion is imprecise and unclear possibly implied rather than stated. • Reasons offered against are undeveloped and only provide weak support for their conclusion and are mixed with rant and irrelevant information. • Structure is either absent or minimal or unclear. • Ideas are copied from the documents without further development • Evidence derived from the documents is not always relevant or significant • Grammar, spelling and punctuation may be inadequate.

Question		Answer	Marks	Guidance	
				Content	Levels of response
16		<p>Indicative content for 9 marks</p> <p>The government scientist is a more credible witness than the farmer. The farmer jumps too quickly to dogmatic conclusions. Thus he assumes just because the disease has been increasing in both cows and badgers that badgers must be infecting the cows. But it could be the other way or something else entirely could be to blame. By contrast the scientist is an expert who carefully considers the evidence and avoids over hasty conclusions. Equally the government scientist is a more credible witness than the animal rights campaigner. For similar reasons. The animal rights campaigner is a muddled thinker who claims there is no evidence to link badgers with the spread of the disease and then quotes evidence which contradicts that. Unlike the scientist he is too involved and not impartial. Therefore it is clear the government scientist is a more credible witness than either of them.</p>	9	<p>Anticipated points include the following:</p> <ul style="list-style-type: none"> • The farmer is not a credible witness because he jumps to conclusions too quickly without enough evidence eg on the basis of a correlation too quickly concludes badgers are to blame • The farmer is not a credible witness because sees things in black and white/too readily accepts false dichotomies eg killing badgers and nothing else will do • The farmer is not a credible witness because he lacks expertise eg faulty reasoning from evidence • The farmer is not a credible witness because he has a vested interest eg gets compensation if it is badgers but not if he is to blame • The farmer is not a credible witness because he lacks neutrality/too emotional to think clearly eg must protect our cattle/kill badgers now! 	<p>Performance descriptions for 7 to 9 marks:</p> <ul style="list-style-type: none"> • The conclusion is precisely and clearly stated. • Reasons are persuasive, cogent and fully developed • The structure of the reasoning is clear and explicit and places minimal reliance on assumptions. • Any ideas borrowed from the documents are developed and expanded • Evidence derived from the documents is used critically and strengthens the argument • Grammar, spelling and punctuation are good. <p>Additional Guidance: In this question, a developed reason may be one which involves an accurate and precise use of a credibility criterion, an understanding of the criterion and a comparison between the characters.</p> <p>A developed reason is likely to be supported by reference to the evidence in the documents and will avoid jumping to conclusions.</p>

Question		Answer	Marks	Guidance	
				Content	Levels of response
16		<p>Indicative content for 6 marks</p> <p>The government scientist is a more credible witness than the farmer. The farmer lacks scientific expertise whereas the scientist backs up his claims with lots of evidence. The farmer just wants his compensation, the scientist doesn't have anything to gain or lose either way. The government scientist is a more credible witness than the animal rights campaigner. He is clearly biased and wants us all to become vegetarians. Whereas the scientist is balanced and neutral. Therefore he is a better witness than the other two.</p> <p>Indicative content for 3 marks</p> <p>The animal rights campaigner is biased. He seems to prefer animals to people. If we have to kill badgers in order to eat meat we should. The farmer will be better than him. He can see the facts for himself. But he is a bit biased. He clearly hates badgers.</p>		<ul style="list-style-type: none"> The animal rights campaigner is not a credible witness because he is a muddled/incoherent thinker eg what is connection between not eating meat and saving badgers the issue is dairy cattle The animal rights campaigner is not a credible witness because he is a muddled/incoherent thinker eg says there is no evidence for a link and then cites the evidence for a link The animal rights campaigner is not a credible witness because he is a muddled/incoherent thinker eg thinks in slogans. The animal rights campaigner lacks impartiality eg another agenda don't eat meat/keep farm animals The government scientist is a credible witness because he is impartial/neutral eg considers a range of possible causes and solutions The government scientist is a credible witness because he is a careful thinker eg expresses himself in possibilities not certainties (contrast farmer) 	<p>Performance description for 4 to 6 marks:</p> <ul style="list-style-type: none"> The conclusion is clearly stated. Reasons which are plausible and relevant are offered. The structure of the reasoning is not fully explicit and does rely on some assumptions. Any ideas borrowed from the documents are re-expressed in the student's own words and used appropriately but not necessarily further developed Evidence derived from the documents is used to strengthen the argument Grammar, spelling and punctuation are adequate. <p>Performance description for 1 to 3 marks</p> <ul style="list-style-type: none"> The conclusion is imprecise and unclear possibly implied rather than stated. Reasons offered against are undeveloped and only provide weak support for their conclusion and are mixed with rant and irrelevant information.

Question			Answer	Marks	Guidance	
					Content	Levels of response
16					<ul style="list-style-type: none"> The government scientist is a credible witness because he is an expert eg carefully identifies relevant evidence 	<ul style="list-style-type: none"> Structure is either absent or minimal or unclear. Ideas are copied from the documents without further development Evidence derived from the documents is not always relevant or significant Grammar, spelling and punctuation may be inadequate.

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